



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/822,726	04/13/2004	Suk Kee Hong	2336-265	2906

7590 05/08/2006

LOWE HAUPTMAN GILMAN & BERNER, LLP  
Suite 310  
1700 Diagonal Road  
Alexandria, VA 22314

EXAMINER

WONG, ERIC K

ART UNIT PAPER NUMBER

2883

DATE MAILED: 05/08/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/822,726

Applicant(s)

HONG ET AL.

Examiner

Eric Wong

Art Unit

2883

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to <sup>amendment</sup> communication(s) filed on 17 February 2006.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1,2,5,7-11 and 13-24 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,2,5,7-11 and 13-24 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Response to Arguments*

1. Applicant's arguments with respect to claims in the prior office action have been considered but are moot in view of the new ground(s) of rejection.

### *Claim Rejections - 35 USC § 102*

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1-2, 5, 7-8 and 19 are rejected under 35 U.S.C. 102(e) as being anticipated by United States Patent Number 6,539,142 to Lemoff et al (hereinafter Lemoff).

Lemoff discloses in figures 2 and 3, a WDM system comprising:

- A receiving optical fiber having an input end for receiving the mixed optical signals and an output end (42, 42a);
- A filter arranged downstream of the output end of the receiving optical fiber to selectively transmit an optical signal at a specific wavelength (column 7, lines 53-58);
- A lens positioned downstream of said filter and spaced from said filter by a gap (51b);
- A transmitting optical fiber positioned downstream of lens (44, 44a);

Art Unit: 2883

- A shutter member moveable into and out of said gap for attenuating a specific wavelength (MEMS devices 52 and 53; Lemoff's claim 4 describes such actuators including comb devices);
- A control unit for controlling the actuator (control circuit 64).

As to claim 2, a thin film filter is described in column 7, line 54).

As to claim 5, a comb drive type MEMS actuator is used (see Lemoff claim 4).

As to claim 8, a photodetector is disclosed (62).

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 16-17 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lemoff as applied to claims above.

Lemoff discloses the invention as claimed including the need for precise alignment, except for the use of adhesives. A U-shape slot would be inherent with a comb-based MEMS actuator.

It is well known in the art to use optically matched adhesives to mount components of an optical system such as the WDM demultiplexer of Lemoff.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to use optically matched adhesives to fix internal components disclosed by Lemoff to reduce optical losses caused by mis-aligned components.

Art Unit: 2883

6. Claims 9-11, 13-15, 18, and 22-24 rejected under 35 U.S.C. 103(a) as being unpatentable over Lemoff as applied to claims above, and further in view of United States Patent Number 6,301,425 to Espindola et al (hereinafter Espindola).

Lemoff discloses a WDM demultiplexer as claimed with a filter to selectively filter specific wavelengths, but fails to explicitly disclose the use of a GRIN lens collimator.

It is noted that the use of GRIN lenses is widely known and used in the art of multiplexing and demultiplexing of signals.

Espindola describes such a GRIN lens to collimate and filter specific wavelengths.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to use a GRIN lens collimator in the device of Lemoff for the motivation of reducing parts and size by combining the functions of a filter and a lens into a single GRIN lens collimator and further reducing optical losses by alignment errors.

### *Conclusion*

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eric Wong whose telephone number is 571-272-2363. The examiner can normally be reached on Monday through Friday, 830AM - 430PM.

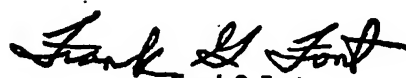
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Frank Font can be reached on 571-272-2415. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2883

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



EW



Frank G. Font  
Supervisory Patent Examiner  
Technology Center 2800